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A.D. 1914

DUPLICATE

Date of Application, 4th May, 1914

Complete Specification Left, 4th Nov., 1914—Accepted, 1st Apr., 1915

PROVISIONAL SPECIFICATION.

Apparatus and Process for the Separation of Fats, Oils and the like from Liquids and Semi-liquids.

I, EDWARD HENRY SAMS, of "Lawnwood", 28, Clairview Road, Streatham, London, S.W., Fruit Grower, do hereby declare the nature of this invention to be as follows:—

This invention relates to an apparatus and process for the separation or recovery of fats, oils, grease and other such matter from liquids or semi-liquids and refers to that type of apparatus in which the liquid is introduced into a chamber, say from the top or side thereof, and is stilled sufficiently for the light matter to rise in the chamber and the heavy matter to fall before the liquid passes out of the chamber.

According to my invention the apparatus comprises the said chamber and within it is a second chamber, or as I will call it for differentiating purposes a vessel, of less capacity than the chamber, the vessel being preferably centrally arranged in relation to the chamber and being open at the top and at the bottom although a cover may be provided and a grid furnished for the bottom as hereinafter described.

In the annular or other space between the vessel and the chamber I arrange horizontal flanges or collars of a width equal to the said annular space, the said flanges being a little distance apart so that a ring-like space is formed between them. The inflowing liquid is led to this ring-like space and enters it from one or more points preferably more than one, say through the side or other part of the said chamber or through one of the flanges, and from the ring-like space, which may be divided into sections, the liquid which has been checked in the ring-like space flows into the vessel through openings in the side thereof and is there stilled so that the separation automatically takes place in well-known manner, the fatty or other light substances rising to the top of the water in the vessel, whilst the heavier matter falls into the chamber or is collected on a grid at the bottom of the vessel, whilst the liquid flows out through the said open bottom into the lower part of the chamber and passes therefrom through suitable outlets which may be of ordinary form or constructed as syphons or led up the side of the chamber and turned over in elbow fashion.

Various details of construction are permissible within the scope of the invention, for example the bottom of the vessel may be solid and outlet openings may be formed around the lower part of the edge thereof. The liquid may be introduced through an ordinary supply pipe terminating in or above the chamber, or through a funnel-like construction arranged thereover. The flanges may be carried by the vessel and the grid may be removable so that by lifting it upwardly through the vessel it will clear the contents thereof and whilst I preferably make the apparatus of circular form, other shapes may be adopted.

Dated this 4th day of May, 1914.

[Price 6d.]

HY. FAIRBROTHER,
Chartered Patent Agent,
30 & 32, Ludgate Hill, London.

BEST AVAILABLE COPY

Separation of Fats, Oils and the like from Liquids and Semi-liquids.

COMPLETE SPECIFICATION.

Apparatus and Process for the Separation of Fats, Oils and the like from Liquids and Semi-liquids.

I, EDWARD HENRY SAMS, of "Lawnswood", 28, Clairview Road, Streatham, London, S.W., Fruit Grower, do hereby declare the nature of this invention and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement:—

This invention relates to apparatus for the separation or recovery of fats, oils, grease and other such matter from liquids or semi-liquids and refers to that type of apparatus in which the liquid is introduced into a chamber or space located between an inner and an outer vessel, and passes into the inner vessel, the light and heavy matters being separated before the liquid passes out of said inner chamber.

In the improved apparatus according to my invention the inner vessel is provided with flanges or collars which form an annular space communicating by means of holes in the wall of said inner vessel with the interior thereof, and connected to one or more inflow pipes.

The separation automatically takes place in well-known manner, the fatty or other light substances rising to the top of the water in the vessel, or if the vessel is submerged in the chamber the fat or oil will rise in the chamber, whilst the heavier matter falls into the chamber or is collected on a grid at the bottom of the vessel, whilst the liquid flows out through the said open bottom into the lower part of the chamber and passes therefrom through suitable outlets which may be of ordinary form or constructed as syphons or led up the side of the chamber and turned over in elbow fashion. Instead of entering the chamber the liquid may be led away from the bottom of the vessel.

I will now describe my invention with reference to the accompanying drawings, in which:—

Fig. 1. shows one form of my invention in which the chamber *a* is connected by a pipe *b* to a trap *c* of known construction and into which the liquid to be treated is poured. Instead of this trap a sink or other liquid-receiving receptacle may be employed. Inside the chamber is the receiver *d* which in this case is furnished with flanges *e* and *e'* forming an annular space *f* in which is a baffle *g*. These flanges separate the chamber into upper and lower parts 1 and 2 respectively, the upper part is furnished with a cover and the lower part has fitted to it a syphon-like pipe *h*. Openings *i* lead from the annular space *f* into the vessel at about the top thereof and other openings *j* towards the bottom of the vessel lead into a part 2. In use the liquid is poured into the trap *c* and any very heavy substance passing the grid *k* will be collected in the pan *l*.

The liquid flows by the pipe *b* into the space *f* and is distributed therearound and enters the vessel *d* through the holes *i* and is sufficiently stilled in the vessel to permit solid matter settling to the bottom whilst the liquid itself flows out through holes *j* into part 2 and away through the pipe *h* which may lead to a drain or other recipient. A handle is provided to lift out the vessel *d* and a draw off tap may be furnished in any suitable part of the chamber.

In the example shown in Fig. 2, the liquid enters through the pipes *m* the annular space *n* and from there into the vessel *o* through openings *p* and escapes through the perforated bottom *q* which arrests solid matter allowing the liquid to pass out through the pipes *r*, one of which only is shown, another being preferably provided diametrically opposite to the pipe illustrated. In this example both the chamber and the vessel are provided with covers.

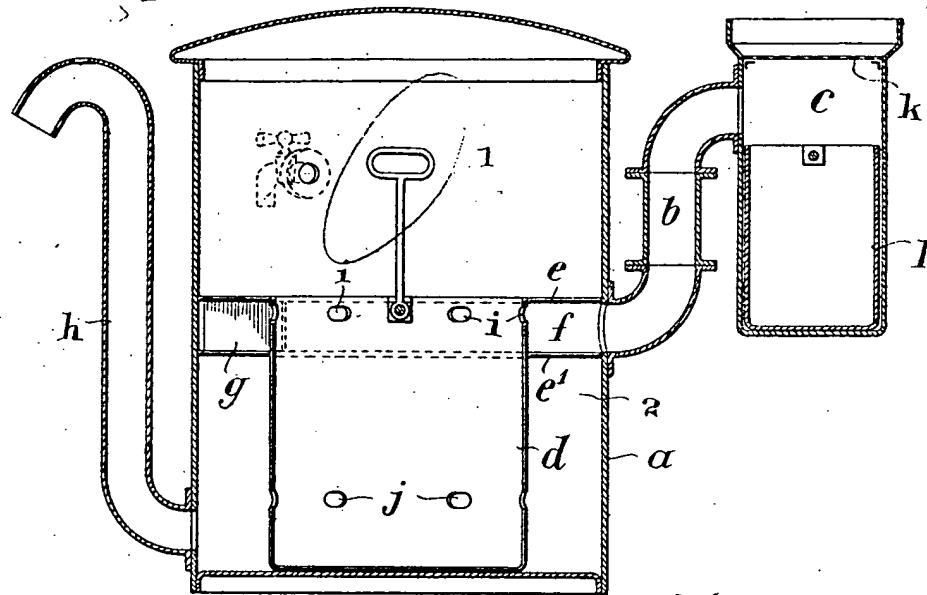


Fig. 1.

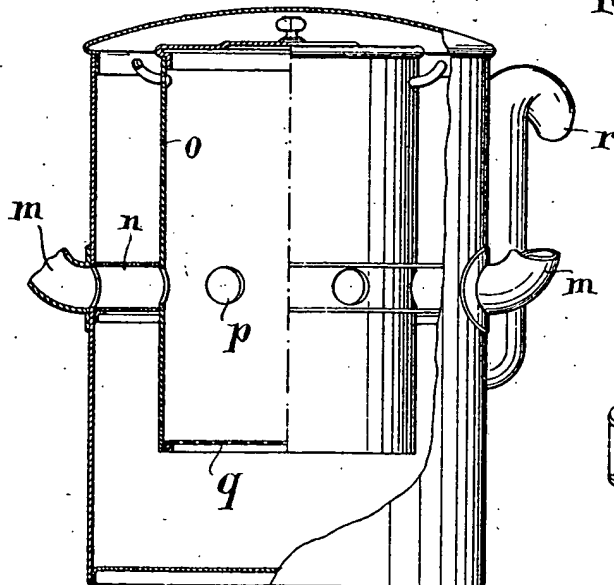


Fig. 2.

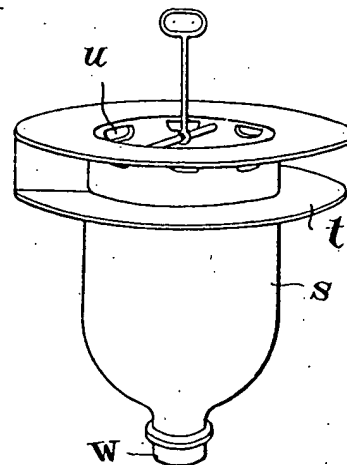


Fig. 3.